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A CRITICISM ON MODERN OPINIONS AND ERRONEOUS IMPRESSIONS HELD BY THE PROFESSION AND THE LAITY REGARDING PULMONARY TUBERCULOSIS.¹

By A. Stewart, M.B.,

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The idea amongst many of the profession and the laity that the disease known as pulmonary tuberculosis is one which pursues a variable yet certain course and which always is progressive and terminates in death, is so prevalent that I have thought it fit to write this paper in the hope that I may be able to point out these fallacies. With this object in view I propose to discuss the salient points of some of these opinions and misconceptions under four different heads: (1) Diagnosis, (2) prognosis, (3) treatment, (4) infection and immunity.

I.—Diagnosis.

The one outstanding error made is waiting for the appearance of tubercle bacilli in the sputum, in spite probably of evident signs and symptoms of the presence of the disease and the false feeling of security which their absence engenders in the mind of the patient when assured by the medical attendant that no

germs have been found. Now, notwithstanding that this bacillus is the primary cause, its evidence in the sputum is after all only a circumstance in the natural history of the disease. Its presence is not an early manifestation and indicates a breaking down of some caseous deposit, in other words, incipient cavity formation. Another frequent mistake made is waiting in the absence of tubercle bacilli till signs of softening arise in the suspected lung. Making all allowances for the uncertainty of some physical signs which occasionally are found in healthy people, the significance of these are enhanced and verified when they are coupled with constitutional symptoms, which are always present and only require careful observation. Waiting, therefore, for signs of softening is just as reprehensible as waiting for tubercle bacilli in the sputum.

There is a general consensus of opinion that there can be no activity in a diseased lung centre without some rise in temperature. This rise in very mild cases may have to be looked for very carefully and in general practice is usually missed. Even in hospital work it is necessary to measure the temperature every two hours and to bear in mind that these observations have to be continued for some time as the activity varies and therefore the rise is intermittent.

Of all clinical tests employed in medicine, taking a temperature is the easiest, but withal I do not think

¹ Read at a Meeting of the Queensland Branch of the British Medical Association on April 1, 1921.

I exaggerate in saying that there is no test more exposed to so many errors. The records kept by busy hospital nurses are not to be depended on. This is not due to carelessness, but from want of knowledge how and where this simple test is to be applied and the length of time that has to be expended on it.

After a long series of experiments made a few years ago, I am quite satisfied that if the temperature is to be recorded scientifically, it has to be taken in the rectum, more especially if the patient be in a sanatorium. In summer I found that the mouth temperature exceeded that of the rectum by 0.44° C. and in winter the discrepancies were so great as to render the record useless. Even in a hospital the chamber of the mouth must be naturally warmed up to its fullest; the thermometer is kept under the tongue until there is no further rise. The time I found to do this was ten minutes. When visiting the Queen Alexandra Sanatorium for Men in Davos Platz, I found that very accurate temperatures were taken by the patient directing a stream of urine on the bulb of the thermometer.

I am quite aware that expediency may be pleaded as a reason for the mouth temperature, in the fact that it is much more practical and that the time expended will militate against the general acceptance of the rectal method. This hardly ought to apply to a well appointed hospital or sanatorium, though I quite grant that in private practice there are many difficulties in the way which make it practically impossible to obtain a thoroughly accurate and scientific record. Still even in these instances, a fixed and stated time should be always adopted, so that the discrepancies may in this way be equalized.

The fact is the whole system of thermometry in tropical lands needs revising. The classical experiments of Wunderlich, Burton-Fanning, Bardswell, Chapman and others were executed in a temperate climate. There is no doubt at all that during the summer the heat of tropical and sub-tropical Queensland is such that everyone's temperature, especially during and after exertion, is always well above normal. Dr. Breinl has, I believe, gone into this, but his investigations have only been restricted to a few wharf labourers and not a sufficient number, at least, to come to any authoritative and definite conclusions on this important subject.

With the advent of X-rays and the many recent improved apparatus, there is an increasing tendency to send for the radiologist in doubtful cases. This is but natural. There is an inherent desire in all to get something tangible, or to express it more correctly, something that will appeal directly to our visual sense and in this way clinch the diagnosis. In this the X-ray shadow gratifies both the medical man and the patient, so that I fear undue advantage may be taken of it and premature inferences drawn therefrom.

The screen examination is more useful in pulmonary cases and is quite sufficient to assist in making or confirming a diagnosis, as it shows the movements of the diaphragm and the illumination of the apices. The only advantage of the negative plate is that a record is preserved permanently and is also

useful for demonstration. It must be clearly understood that a skiagram cannot demonstrate active disease and that it may be taken as a general rule that the more clearly cut and more obvious the shadow, the more chronic the case; obvious shadows exclude lesions within the realm of incipency. I do not consider a practitioner is justified in tapping a pleuritic effusion due to secondary implication of the mediastinal glands in scirrhus of the breast, or an effusion where there is active tuberculosis disease in the lung on the same side, simply because the presence of fluid has been demonstrated on the screen. In the former the pressure of the fluid does not inhibit the malignant extension, but the withdrawal stimulates its growth; where there is tuberculous mischief in the lung, its presence inhibits the activity in the same way as artificial pneumothorax. Because a pulmonary apex shows a distinct shadow, no practitioner is justified in treating that man for tuberculosis in the absence of other signs and symptoms.

Some time ago conjointly with Dr. W. N. Robertson I drew attention to the condition of the right apex found in wounded and other soldiers who have been long exposed to the exigencies of the weather. It also exists in an exaggerated form in soldiers who have been "gassed." This condition has also been clearly described in civil life by Huggard of Davos and Rivière of Victoria Park. It occurs in mouth breathers, in children suffering from adenoids and in adults with hypertrophic rhinitis. The pathogeny is that the mouth carries dust and cold air through the wide straight right bronchus directly into the bronchioles of the apex and its deficient expulsive power allows the cold air to remain there; a local fibrosis ensues, which is frequently diagnosed as pulmonary tuberculosis.

Another condition which is well worth considering as it has not been appreciated by the profession, is the class of case described by Fishberg of New York and called by him abortive pulmonary tuberculosis. No one who has been an assistant or filled a *locum* in some large, congested, industrial centre, could fail to recognize the number of patients suffering from this disease who work as well as their healthy neighbours, though their appearance does not suggest pulmonary trouble. The symptoms are most trivial, with an occasional cough, which is labelled, both to the satisfaction of the patient and his lodge doctor, as bronchitis or a cold on the chest. People in this condition with very little disability seem to live as long as other folk. It is in the terminal stages of this abortive form that keen practitioners often make an error. Lately I came across a case of this kind where a medical man of repute insisted on a patient forsaking his business and selling up his home to go west, simply because a large, dry, harmless cavity had been accidentally discovered in the upper lobe of his right lung.

Cornet holds that this form should be classified as a special type. It runs a very short course of about three or four months and heals spontaneously without treatment and, what is of more interest, remains cured indefinitely. It is quite in a line with other abortive types of other infectious diseases, such as

enteric fever and small-pox. Abortive pneumonia is extremely common in Queensland.

In the above I have mentioned bronchitis being used as a label; by that I do not wish you to think that bronchitis as a well defined entity does not exist. Still I do maintain that in many instances it is a symptom and not a disease. It is quite on a par with true asthma. By the term true asthma I mean paroxysmal dyspnoea without any apparent cause. Bronchitis, as used by the profession and the people, is in the majority of cases a symptom and nothing more, which is due to three different causes. (i.) A pathological deposit in the parenchyma of the lung, for example tuberculosis. Lobar pneumonia and broncho-pneumonia are included in this group. (ii.) Bronchiectasis which is a saccular dilatation of a bronchus, varying from the size of a pea to a large sized cavity. (iii.) Peribronchial fibrosis. This is a pathological condition present in every case of pronounced bronchitis varying from chronic bronchial catarrh to profuse bronchorrhoea. In the advanced stages the fibrosis produces cylindrical dilatation of the bronchial tree and is familiarly known as the chronic bronchitis of the aged. Every chronic senile cough is due either to this cause or to ultra-chronic tuberculosis. To summarize, I maintain that bronchitis has a parallel in asthma, which in varying instances is only a symptom, and that bronchitis is merely an evidence of some deposit in the parenchyma of the lung or some pathological state of the bronchial tree.

The term "miners' phthisis" is one on which there is a great diversity of opinion, even amongst medical practitioners. The public and very many medical men are of opinion that it is ordinary phthisis affecting miners.

Miners' phthisis is produced by the inhalation of quartz dust which causes peribronchial fibrosis and from there it extends to the parenchyma of the lung. The disease is first evidenced by great breathlessness accompanied only sometimes by cough. This continues for years and is ultimately followed by great dyspnoea and spitting of gritty sputum. Death frequently occurs with dramatic suddenness. Tubercle bacilli are as a rule consistently absent from the sputum, subsequent infection by tubercle bacilli being rare in this State.

This disease is present only in gold mining centres. I have only seen one case amongst coal miners. Even in the earliest of cases it is an incurable disease. If on the first suspicion of breathlessness the patient leaves his occupation, the disease still progresses until death supervenes. I have just examined a patient who left mining when he noticed the dyspnoea. He suffered thus for five years when cough developed with silica laden sputum.

II.—Prognosis.

The late Dr. Gee said in his infinite wisdom that whatever may be written about the prognosis of phthisis was sure to be wrong. After many years this still holds good, with one exception, *viz.*, the record of the morning temperature of a cured patient. Given a man with arrested disease, *i.e.*, one in whom all the signs and symptoms are in complete

abeyance and whose morning rectal record before rising reached 37° C., that man will have a relapse within six or twelve months from the date of discharge.

After sixteen years of sanatorium work I found that patients having no rise in temperature, have a better recovery than those who have; in other words no fever days means high records of cure. It should therefore always be our aim to avoid reactions sedulously, either from so-called autoinoculation or tuberculin. "No reaction, no cure," is a misleading adage.

Before finishing the consideration of prognosis there is one common error I wish to bring before your notice. It is the small number of tubercle bacilli found in the microscopic field, being made a standpoint on which to found a good prognosis. There is no more pernicious doctrine. Pathologically one tubercle bacillus is as good as a thousand. Temporary fluctuations are present in favourable and unfavourable cases and in acute cases they are frequently absent.

III.—Treatment.

No man can spend many years of his life in constant contact with this disease and have much enthusiasm left for the treatment; in fits of depression which is the failing of human nature, he often feels inclined to rue the day he joined the band of tuberculosis specialists. Without much reflection he finds it is the same old disease with the same cough and "bad turns" and the same fatal termination of all but a large percentage of truly incipient cases.

The first thing that suggests itself in treatment is tuberculin, an agent which after a varied and stormy career, seems for the second time to be on the decline.

Between 1906-8 I made a series of experiments. In 61 cases along with the usual sanatorium methods, a course of tuberculin was given, the method employed being that used and recommended to me by Dr. Trudeau, who was aware of my experiment. This method consisted in ever increasing doses of Denys's *bouillon filtré* with avoidance of reactions. In tolerant cases the maximum dose aimed at was 1 c.cm.. This was followed up by a secondary course of bacillary emulsion. The majority reached 1 c.cm. of the *bouillon filtré* and many reached 1 c.cm. of bacillary emulsion, though I found this not so easily tolerated.

Another group of 61 patients was chosen with great care, so that their physical condition corresponded with those treated with tuberculin. Those also received the usual sanatorium rounds and so that the psychic element might be maintained, saline solution was given hypodermically twice weekly. The remote results (the only results worth having) were collected in 1912, and are given in the following:

Tuberculin Cases: Of the 61 patients discharged during years 1906-08, 46 were definitely traced in 1912. Of these, 15, or 32.6%, were well and earning their living in 1912; 14, or 30.4%, were readmitted during or before 1912; 17, or 37%, died or relapsed during or before 1912.

Non-Tuberculin Cases: Of the 61 patients discharged during 1906-08, only 29 were definitely

traced in 1912. Of these, 10, or 35.5%, were earning their living in 1912; 11, or 37.9%, were readmitted during or before 1912; 8, or 27.6%, died or relapsed during or before 1912.

It is to be regretted for the sake of comparison that the number of "non-tuberculin" patients not heard of is in excess, as it naturally interferes with the figures which, however, in this instance prove little or nothing for or against. They help to harden my former impressions into a definite conviction that its real curative influence is psychic. The cases that seem to be most influenced, were the apyretic ultra-chronic, in which the course became more regular and the exacerbations of fever less frequent; but even then you cannot free yourself from the lingering doubt expressed by Professor Rist, of Paris, that the patients might have improved in the same way without tuberculin.

Every successful sanatorium physician is a psycho-therapist in a superlative degree. The man at the proximal end of the stethoscope or syringe counts for more than his methods.

From the consideration of tuberculin, we pass on to chemo-therapy. This for years has been looked on with disfavour by the best of the profession, the plea usually put forward being that as a caseous mass is not supplied with blood vessels, it is naturally impossible to entertain the hope that it could be acted on by chemical agents circulating in the blood. So strongly was this idea held that it comes as a pleasant and agreeable surprise to read in the 14th Report of the Henry Phipps Institution for 1918 of the investigations of Dr. Paul A. Lewis. It will take too long to go fully into this subject, but I will quote the following:

The second experiment is of great interest, showing, as it does, conclusively that extraneous chemical substances of proper constitution may within a few days penetrate to the caseous centre of a tuberculous mass and become more concentrated there than in the normal surrounding tissues. The substance in this particular experiment was *Trypanoth*. This may probably be without effect on the lesion itself, but the result should be a great stimulus to future work.

Again he stated:

De Witt confirmed my observations and added trypan blue to the list of penetrating substances.

He also refers to chemotherapy in tuberculosis as the immediate question of the hour. It is not unreasonable nor over sanguine to hope that in the near future an agent may be prepared with a selective, curative influence on a tuberculous caseating mass, analogous to salvarsan.

Following the publication of Paterson's book "Auto-Inoculation in Pulmonary Tuberculosis" the medical and to a lesser extent the lay press had articles and discussions on graduated labour as a "cure." In short, it became the vogue. Photographs of patients carrying baskets, shovels, etc., appeared in the Australian medical press and most of us, including myself were sucked into the maelstrom. In allowing myself to be thus led, I look on it as the biggest blunder I have ever made. So much impressed have I been with the after results which I have subsequently seen, that I look back on the last few years of my sanatorium work with the deepest regret. We did not seem to appreciate fully Pater-

son's standpoint. His attention originally was directed to a well built navy "who worked for forty-eight hours without a rest and although he had extensive physical signs, was none the worse for such arduous work." This then was the starting point of Paterson's mode of treatment. Judging from the resistance shown in the above-mentioned navy, if he had at the beginning of his tuberculous career, instead of working, laid up in a sanatorium where rest was paramount, he would have been healthy and well to-day and added another to the permanent recovery records instead of having marked physical signs. Paterson's system is best applied in self-evident and pronounced cases to patients with good resistance. In true and recent incipient cases, even in the healthiest looking, rest in bed for one month at least, until the rectal temperature becomes sub-normal and the pulse rate is about 70, is the better way. This then should be followed by just enough work to restore the patient to his accustomed full physical vigour.

Paterson and his disciples do not see the end results of their cases. Others do. While writing this paper I examined one of these patients in whom the chronic invalidity was clearly traced without doubt to an auto-inoculation in Frimley and proved disastrous. Even an ardent tuberculin enthusiast has more scientific reasoning in his methods. He gives a dose which is measurable and well defined, whereas Paterson depends on an unknown quantity. The fact is his success depends entirely on psychic influence. Whoever has seen his keen, alert face and witnessed his strong personality, cannot wonder at his reputation.

Farm Colonies and Village Settlements.

Realizing that sanatorium life is too short to consolidate a permanent arrest, after-care associations have suggested the formation of a colony for persons with arrested infection; in other words the colony is merely an annexe of the sanatorium where patients are supposed to learn farming and allied out-door occupations. To begin with, most patients are recruited from the town dwellers, so that a prospect of a happy family is rather remote. Greatest care must be taken to appoint only those who are peculiarly suitable for the position of management; therefore, it is essential that the housekeeper and overseer have been thoroughly cured of their disease. Healthy people have no patience for broken lives and invariably look on a slow worker as a "shirker." To make even a bare living, farming is extremely hard work and requires the intuitive knowledge which experience alone can give. The same may be said about gardening. Poultry farming is more quickly learned, but is extremely confining and monotonous. For these reasons I can see only failure in front of the farm colony movement. The same may be said of vocational training. How can it be expected that an ex-soldier, who in all probability has been a casual labourer and is now trained as a cobbler, to stand up against a healthy bootmaker? The question is hardly worthy of comment.

Village settlements, like Papworth in Cambridgeshire, are a different proposition altogether. I look

forward to them with the most sanguine expectations. To put it as shortly as I can, the whole drift is to encourage all patients with chronic, open phthisis to follow their own trade or kindred trades in a healthy, well ventilated workshop in a country village made up of "lungers." For the hours of work done he is paid the usual wage and if this be not sufficient for a living, it is subsidized; he lives there with his family under healthy and happy surroundings. It is the only feasible plan yet put forward to the profession of segregation which is voluntary, to meet a problem bristling with difficulties. It makes a man of the patient because he is not exploited under the name of charity. He lives in his own home with a permanent billet and a living wage, unmolested by the health visitor. He can cough in peace, with a doctor handy to pick up any recrudescence. The best news of all is that it is well passed the experimental stage. Papworth has been a great success and many of the trades are now run at a profit, so that the settlement will be made co-operative, whereby the successful trades will be able to help the less fortunate.

IV.—Infection.

Infection by means of milk has lead to a great deal of acrimonious discussion lately in the *British Medical Journal*, and the whole subject seems to be in a state of chaos. Fraser and many of his Edinburgh confrères have demonstrated to their satisfaction that tuberculous infected milk is the undoubted cause of surgical and other forms of tuberculosis in children. Stuckey, who has practised in China for many years, and who favoured us with an address at our Branch some time ago, assured us that milk was never by any chance used as a diet for children in China, notwithstanding which tuberculosis, both surgical and abdominal, was rampant. These opinions are supported by all practitioners in the East.

In many autopsies performed on children in Vienna and Zurich 90% to 95% were found to be infected by tuberculosis. This is supposed to confer a certain amount of immunity; on this assumption the tuberculosis of adult life is presumed to be a recrudescence under certain conditions of this previous infection. On the strength of this, even a level-headed clinician like Clive Rivière in all seriousness goes to the length of suggesting that children should be fed on bovine-infected milk (mixed) so that massive infection may be avoided. It would be interesting to learn if he feeds his own children thus. If he believes so thoroughly in this partial protection, why does he not administer gradually increasing doses of attenuated bovine bacilli instead of resorting to a haphazard unknown dosage. In a lecture given by Dr. Batty Shaw, of Brompton, on special hospitals for tuberculosis, with the hospital part of which I thorough agree, he goes on further to say that phthisis of adult life is caused by a recrudescence of infection acquired in early life. Therefore the further possibility of infection is negligible. He describes the regulations against promiscuous spitting of consumptives in the following words: "These admonitions are little more than are required of a decently behaved community." In other words, spitting in the street is merely a dirty habit.

In opposition to this theory of Batty Shaw and others that adult infection of the lung is due merely to a recrudescence of some old focus left there as a heritage of childhood, Opie, of St. Louis, has made exhaustive researches in which he supplements the usual *post mortem* findings with studies from skiagrams made of the respiratory and intestinal tracts after their removal from the body. He has proved that pulmonary tuberculosis of adult life is not due to recrudescence, but is a new infection of the apices.

These researches naturally require confirmation, so that we should keep an open mind before accepting the statements made by Batty Shaw and others.

We now proceed to consider shortly the subject of mixed, or more correctly, secondary infection. Dr. Radcliffe, Pathologist at Midhurst, investigated a series of classes of mixed infection selected by Dr. Noel Bardswell. Radcliffe found that it was only present in 10% of these and even then in some the *Streptococcus pyogenes* was saprophytic, having failed to give the typical Gordon reactions.

In attempting to summarize, it seems to me that the whole evidence is so contradictory and in many instances hypothetical and unconvincing, that the aetiology and pathogeny needs to be revised and rewritten. While I was a student at Marburg, Römer, chief assistant in von Behring's laboratory, frequently repeated the statement that in all probability there was a mode, or modes, of tuberculous infection still undiscovered.

Before closing may I be allowed to enter a protest against popularizing the subject of tuberculosis? An immense number of books and pamphlets have been written, the best of which are by Professor L. von Schrötter, of Vienna, and Dr. Jex-Blake, of St. George's Hospital, London. The rest for the most part are sensational and alarming, so that the crusade against consumption has almost degenerated into a crusade against consumptives. Unfortunately, the average reader cannot distinguish between truth and flights of rhetorical exaggeration, so that false ideas are created and only add another drop to the consumptive's bitter cup which is already full to the brim.

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NOTES ON A TYPHOID CARRIER.¹

By C. T. Champion de Crespigny, M.D., M.R.C.P.,
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Miss M.S., nurse, *at.* 30 years, was admitted to the Adelaide Hospital on June 22, 1920. She said that

¹ Read at a Meeting of the South Australian Branch of the British Medical Association on April 28, 1921.

she was a "typhoid carrier." She had suffered from typhoid fever $3\frac{1}{2}$ years ago. During this illness her liver was said to be enlarged and she was jaundiced, but she made an apparently complete recovery and returned home.

Two weeks after her return her mother, two brothers and a sister contracted typhoid. A fortnight later her father, another brother and a sister became affected. Two brothers and the father died. Twelve months later another sister contracted the disease, while six months ago a brother became similarly affected. No other people in the vicinity except the members of this family were affected. During all this time Miss S. was doing ordinary household work. For the last 18 months she has enjoyed excellent health.

Three years ago a bacteriological examination was made of her urine and faeces, but no *B. typhosus* were found. Another bacteriological examination was carried out on March 4, 1920, without result, but on March 30, 1920, the organism was recovered from the stools. None was found in the urine on the same date. The faeces and urine from other members of the family were examined at this time, but no bacilli were discovered.

The patient when examined on admission showed no abnormality. Neither the liver nor the gall-bladder was enlarged. The urine was normal and contained no micro-organisms. The faeces contained *Bacillus typhosus* on July 26, 1920.

On August 14, 1920, an Einhorn's duodenal tube was passed, but no bile was obtained. Probably the bulb did not pass the pylorus. From the fluid withdrawn no typhoid bacilli were recovered.

On August 21, 1920, the tube was again passed and left in for $1\frac{1}{2}$ hours. This time bile was aspirated and culture showed a pure growth of *B. typhosus*.

On August 27, 1920, Dr. Smeaton performed cholecystostomy. No gall stones were discovered and the gall bladder did not appear to be diseased. Biliary drainage was established by a rubber tube.

On September 2, 1920, hexamine (1.0 grm.) was ordered to be taken three times a day.

On September 7, 1920, the bile recovered from the fistula contained 4-6 million typhoid bacilli per c.mm..

On September 18, 1920, eusol irrigation of the gall bladder thrice daily was ordered.

In October she had two intravenous injections of typhoid vaccine at an interval of a week.

The first injection was of 50,000,000 bacilli and the second of 100,000,000 bacilli. There was a slight reaction (temperature 38.4° C.) after the second.

From September 8, 1920, to October 19, 1920, nine examinations were made of the bile from the gall bladder and *Bacillus typhosus* was found on every occasion. The number of organisms varied from 704,000 to 23,000,000 (on October 12, 1920) per c.mm..

On October 27, 1920, no growth was obtained on culture media inoculated with bile.

From this date to December 3, 1920, seven examinations of the bile were made without results. The tube was left out of the gall bladder and the fistula closed spontaneously. The faeces were examined on November 4, 1920, and on February 21, 1921, but no

B. typhosus was grown. This patient's faeces were examined again in June with a negative result for *Bacillus typhosus*.

The patient has been instructed to report every two months and has been given directions as to personal hygiene, in view of the possibility that the absence of demonstrable or actual infectivity is only temporary.

The following points demand consideration.

The recurrence of enlargement of the liver and jaundice during the patient's attack of typhoid fever is interesting. It shows that the liver and biliary apparatus reacted acutely to the invasion with typhoid bacilli.

During the time that the other members of the patient's family were infected, the patient was doing ordinary household duties and was frequently in the kitchen. The family lived in the country. The house was not provided with a septic tank, earth closets being used. The method of infection therefore was probably (a) by the handling of food by the patient, (b) by the contamination of food by means of flies, acting as vectors of bacilli from the patient's excreta.

Attention is directed to the use of Einhorn's tube in definitely showing the bacilli in the bile prior to the operation. Dr. Bull, of the South Australian Government Laboratory, tells me that the bile contained no leucocytes or catarrhal cells, nor was there any evidence of an inflammatory reaction of the mucosa of the gall bladder or ducts. In addition to *B. typhosus* a few staphylococci grew on the culture media. These ceased when the *B. typhosus* disappeared.

Neither hexamine internally nor eusol irrigation appeared to affect the number of organisms in the bile.

Shortly after the second injection of dead organisms into a vein, their excretion through the bile ceased and so far they have not reappeared therein nor in the faeces after the normal path of the bile has been re-established.

Discussion.

Of the two types of carriers, urinary and faecal, the latter are the commoner and in them the microbes seem always to reside in the bile. So far as I can ascertain the bile has not previously been examined prior to operation to demonstrate their presence.

After the experimental intravenous inoculation of rabbits with living typhoid bacilli the organisms can be recovered within a few hours from the gall bladder. In almost all cases the bacilli can be recovered from the gall bladder in the bodies of patients who have died from enteric fever. The organisms either gain access to the bile *via* the portal system and the bile capillaries or else through the blood supply of the gall bladder. Probably the former route is the more common, though the latter has been shown to occur in experiment animals.

In reference to the infection of the bile, Professor C. J. Martin, Director of the Lister Institute, in a personal communication, says: "I always picture these cases as due in the first instance to minute typhoidal necrotic areas in the liver from emboli containing the bacilli, where they make good and believe they go on for years. The gall bladder is only

secondarily infected. If the liver foci are finished, you should get satisfactory results."

Seeing how often one finds these minute necrotic foci in the livers of typhoid patients, it seems to me that this view is probably true. In this particular case there was certainly a severe implication of the liver and bile ducts during the course of the disease.

Whether the discharge of organisms ceased spontaneously I do not know. That this happened soon after the inoculation may or may not be a coincidence. In the history of many carriers there is a record of apparently spontaneous cessation of the discharge of organisms, usually followed at a variable interval of time by their reappearance.

The use of the Einhorn tube was suggested to me by Dr. A. F. Hurst, who employed it to recover bile from patients suffering from epidemic jaundice at Lemnos in 1915.

Reports of Cases.

TORSION OF THE SMALL INTESTINE.¹

By L. O. Betts, M.B., B.S.,
Adelaide.

Mr. M., aged 28 years, gave the following history: Six weeks previously he had been operated on for acute appendicitis by Dr. Ramsay Webb, of Melbourne. There had been drainage of the wound for some days. During the week following the operation, great difficulty had been experienced in getting the bowels to act. Since then he had had no trouble other than two or three attacks of slight pain in the lower segment of the abdomen, which he attributed to "wind." On the day prior to my seeing him, he had similar pains, for which he took salts, after which he had a fair bowel action and relief of the pains.

At 5 a.m. the next morning, having passed a good night, he was seized with violent, colicky pains in the lower region of the abdomen, which eased off after a slight bowel action. At 9 a.m. they recurred with increased intensity and were accompanied by vomiting. This acute hypogastric pain persisted, with severe exacerbations and vomiting, till 1 p.m., at which hour I first saw him. He was then rolling about in agony during one of the paroxysms. As soon as this had passed his general appearance was good; the temperature was subnormal; the pulse-rate 100, with good volume. The abdomen was scaphoid, moving with respiration. There was some dullness in the left flank; deep tenderness in the hypogastric and left iliac regions, but no muscular rigidity.

Rectal examination revealed that the rectum was empty and ballooned. A tender, soft, mobile mass was felt in front of it. After his removal to hospital an enema was given, with a good result and much relief. It was repeated two hours later, with another good motion with flatus. After this he was even more comfortable, having very little pain in the abdomen of a fixed nature. An hour later he had a bowel action, with a blood-stained, watery stool. At 6.30 p.m. he passed another stool containing a large quantity of blood. Just after this he "felt much better" and was free of pain. His general appearance was still good, but the pulse-rate had run up to 140. The abdomen was scaphoid and tender as before. Dr. Cherry saw him with me a little later and operation was decided on, with a provisional diagnosis of a mesenteric thrombosis.

By the time operation was commenced at 9.15 p.m. the pulse was uncountable at the wrist. Under anaesthesia administered by the open method, the abdomen was opened below the umbilicus. About 800 c.cm. of blood-stained fluid drained away. All the coils of small gut presenting were black to blue-black, quite collapsed, with the serous coat still retaining its lustre. One long loop was hanging very low in the pelvis. This was jet black, as was its mesentery,

in which not a trace of fat could be seen. This loop was traced upwards and its mesentery found to be black right to its root. No constriction could be detected here. The remainder of the gut examined was blue-black, as was its mesentery. Altogether several metres of bowel were examined. The caecum, which was partially screened off by omentum adherent to the old operation scar, was not affected nor was the sigmoid. Before we had time to follow up the small bowel and define the limits of the bowel involved, the patient became almost pulseless and appeared to be about to die on the table.

As we considered the condition due to mesenteric thrombosis and therefore hopeless, we rapidly closed the wound without investigating further. For the next ten hours the pulse was uncountable at the wrist. It then began to pick up a little. Thirty-six hours after operation his pulse-rate was down to 120 and pain was troubling him again. Sixty hours after the pulse-rate was 100 and the temperature 37.8° C. The abdomen was moderately distended and there was increasing pain. Enemata were returned blood stained, with no flatus.

Dr. H. A. Powell then saw him with me and, in view of the signs of obstruction and the appearance of the bowel at the operation, another laparotomy was decided on. The abdomen was reopened. Coils of dark red, congested gut, very much distended, presented. It was then found that there was a torsion of the lower 180 cm. of ileum. The torsion was in a clockwise direction, through about a half to three-quarters of a turn, ending about 15 cm. to 20 cm. above the ileo-caecal valve. It was reduced without difficulty. Where the bowel crossed at its base there was moderate compression of the gut, but no serious damage to its wall. The large loop that had been so black at the first laparotomy contained thrombosed veins, with extensive extravasation of blood into the mesentery. The gas in the distended coils was milked into the caecum. The omentum was freed from the appendicectomy scar in the abdominal wall, also from the ileo-caecal angle, whence the appendix had been removed. The adhesions of the omentum did not in any way appear to be causing any constriction or pull on the mesentery involved in the torsion. The abdomen was then closed. The patient passed through a terrible four days, during which time it appeared as if he were going to die from paresis of the gut. After that period, however, the gut regained its power and his recovery was then uninterrupted.

Dr. Ramsay Webb, of Melbourne, sent me the following notes on the original appendicectomy:

When the abdomen was opened, thin, odourless pus welled up; there were no adhesions and few signs of peritoneal reaction. The appendix was with some difficulty dislodged from a pouch behind the ileo-caecal junction. It was greatly swollen and almost gangrenous from base to apex. The stump was invaginated. Two days' drainage; no vomiting; but on the fifth day the temperature rose and the wound was reopened with a probe, pus evacuated and drainage reinstituted for a week. During this period he had several disquieting attacks of fairly acute abdominal pain, with constipation and definitely localized distension in the lower abdomen. On two occasions I made up my mind to reopen him, but found that *ol. ricini* relieved him. There seems no doubt that the loop of gut twisted and untwisted itself on several occasions while he was with us.

The sequence of events in this case appears to have been as follows: The long, hanging loop of gut was apparently the cause of the trouble. It evidently became twisted on itself and then the peristalsis of the bowel above brought more bowel into the torsion. The venous circulation then became blocked, without the lumen of the bowel being totally obstructed, otherwise the large stool of blood and the empty black bowel would not have been possible. At the first operation we must have released the torsion sufficiently to allow the circulation to be re-established. Seeing that at this time the upper surface of the affected mesentery was followed up to its root without any torsion or constricting band being detected, it appears the torsion must have been almost completely relieved. Whether the torsion immediately recurred or at some time later between the first and second operations is a point on which I am still doubtful.

¹ Read at a Meeting of the South Australian Branch of the British Medical Association on April 28, 1921.

There are several points of special interest in the case:

1. At the onset the marked scaphoid abdomen, with the collapsed, damaged bowel. This is the reverse of what usually happens in a volvulus. No distension occurred till the third day of the attack.

2. The intense cardio-vascular shock, in spite of the fact that during the post-operative period he displayed a remarkably stable vaso-motor system.

3. The amount of bowel involved—180 centimetres—is greater than usual.

4. The ease with which the vessels were strangulated. Our handling of bowel was not extensive, yet the torsion was accidentally reduced, which points to its extent having been certainly less than a full turn.

5. The recovery of bowel in the long loop, although there was definite thrombosis of veins.

6. Although from the history of the case and from Dr. Webb's notes it appears as if the appendix operation were in some way responsible for the attack, we could not see how the omental adhesions could bring about the torsion.

Reviews.

HYGIENE.

The issue of a fourth edition¹ of Dr. Aitchison Robertson's "Manual of Public Health" certainly indicates a considerable demand for this little work and where a demand exists merits must be present. The author intimates that this edition has been thoroughly revised and brought "up to date"; hence, in a review of its contents, due consideration must be given to this statement. This work is designed for the use of students preparing for qualifying examinations. In attempting to cover the whole field of public health in 245 small pages, much has necessarily to be omitted and still more subjected to extreme condensation.

In view of the ever-widening medical curriculum, the over-burdened student does not object to condensed textbooks and particularly to those on public health, which is not regarded as of essential importance by examiners.

This little work follows well-defined and accepted lines. It is, on the whole, well arranged and the type set up in such a way as to catch the eye. It includes in an elementary way practically all that the student requires for a qualifying examination, but it will not suffice for the wants of a municipal medical officer of health.

The chapter on air and ventilation follows the teaching of de Chaumont as expressed in 1875. Although the revision was completed a few months ago, no reference is made to the writings of Leonard Hill and his co-workers. No book dealing with ventilation can be considered up-to-date which ignores this work.

The section dealing with bacterial treatment of sewage is too general to be of practical value to the student. It is recommended that the "settling tank should be made of brick sunk in the ground and six to eight feet deep." No information is given as to the requisite dimensions of tanks or bacterial beds, nor as to the principles on which such dimensions should be based. Neither is the description of the chemical changes induced by bacteria quite in accordance with the facts.

The important question of disposal of night-soil from pan closets is not dealt with. However, in this respect the larger works on public health are but little better. No reference whatever is made to chemical closets. In view of the considerable time that they have been in use, some description and expression of opinion should be given in a work that purports to be "up to date."

The principles of disinfection are described satisfactorily, but instructions as to the use of disinfectants lack practical direction. To destroy vermin in clothing "disinfection with plenty of sulphurous acid gas in a closed room" is recommended.

The application of heat to tablets of paraform is the only method described for the generation of formaldehyde for practical disinfection purposes.

The chapter on infectious diseases is the most compre-

hensive one in the book. It traverses the whole subject, but the context suffers from condensation.

Yellow fever is briefly dealt with, but the recent work of Noguchi in Guayaquil is not noted.

The section on vital statistics deals with the subject in an elementary manner, but it is sufficiently explicit for the needs and probably also the inclination of the student. The author regrets his inability to supply certain particulars "as the details of the 1911 census have not yet been published."

The chapter on food and dietetics deals with the subject on orthodox lines, brief reference being made to vitamins.

The last 24 pages are devoted to an exposition of the complicated and extensive sanitary laws of England and Scotland. The author has succeeded in recording a mass of legal information in tabloid form. Such information, however, is not of much value to the Australian student, except, perhaps, for comparison with local legislation.

DINNER TO THE FEDERAL COMMITTEE.

The Council of the New South Wales Branch entertained the members of the Federal Committee and the members of the Australasian Medical Publishing Company, Limited, at dinner at the Australian Club on July 20, 1921. After the loyal toast had been honoured, the President, Dr. Fourness Barrington, proposed the toast of "The Federal Committee." In the course of a graceful speech, he congratulated the Committee on the valuable work they had performed for the medical profession and referred to the important mission on which Dr. R. H. Todd was engaged. Anticipating a successful issue of this mission, he looked forward to the day when the Australian Branches of the British Medical Association would be able to perform their functions even more effectively than at present through the agency of their own Congress and of a Federal Council, which could become the analogues of the Representative Body and of the Central Council in the United Kingdom. Dr. W. T. Hayward, C.M.G., replied for the Federal Committee in a happy vein. He spoke enthusiastically of the important event in the history of the Committee when Dr. Cumpston, as Director-General of Health in the newly-created Federal Department, had arranged with the Committee to discuss with them the various measures to be introduced for the prevention of disease. He was convinced that the collaboration of the Federal Health Department and the Federal Committee would be of the greatest value to the profession and to the Commonwealth.

Dr. C. Bickerton Blackburn, O.B.E., proposed the toast of "The Australasian Medical Publishing Company, Limited," in appreciative terms. He admitted that he had a somewhat hazy knowledge of the names of the members of the company, although he did know who were the Directors. Dr. Hone replied with a thoughtful speech. He suggested that the subject of the prevention of diphtheria might be attacked more vigorously in the *Journal*. Articles had appeared from time to time, calling attention to the deplorable fact that, notwithstanding the possibility of controlling the amount of infection and the number of deaths from this disease, the incidence and mortality had increased during the last decade.

It is with regret that we have to record the death of Dr. Gateward Coleridge Davis, of Sydney, on July 21, 1921.

We regret to record the death on June 20, 1921, of Dr. John MacKenzie, of Glen Innes, New South Wales.

We regret to announce that the death of Dr. Bryan Aloysius Veech took place at Wellington, New South Wales, on July 23, 1921.

FEDERAL INCOME TAX RETURNS.

In our issue of July 16, 1921 (page 49), we published a paragraph based on information received directly from the Deputy Commissioner's Office in Sydney. On referring the question for verification to the Deputy Commissioner we are now informed that medical practice is regarded as a "business" and that the returns of incomes from this source are to be lodged on or before August 31, 1921. Medical practitioners in receipt of salaries must lodge their returns not later than July 31, 1921.

¹ Manual of Public Health, by W. G. Aitchison Robertson, M.D., D.Sc., F.R.C.P.E., F.R.S.E.; Medical Series; 1921. London: A. C. Black, Ltd.; Post 8vo., pp. 245, 25 illustrations.

The Medical Journal of Australia.

SATURDAY, JULY 30, 1921.

The Federal Committee.

July, 1921, marks an epoch in the history of the Federal Committee of the British Medical Association in Australia. It is not often that two events of first-class importance take place almost simultaneously. It is still rarer that two new instruments should be forged at the same time, which will enable an organization with two main channels of activity to expand in both directions. It will be remembered that, after ample negotiations and due consideration, each of the six Branches of the British Medical Association in Australia adopted a constitution for a Federal Committee in the years 1912-1913. The object for which this Committee was established was to co-ordinate the work of the six individual Branches. The Federal Committee received the official recognition of the British Medical Association in London in 1914. Since that date the Committee has performed much important work, more especially in connexion with the relations of the medical profession to the Ministry of Defence, the Ministry of Repatriation and the other departments of the Federal Government. The Committee has been the means of securing uniformity of policy on matters of importance affecting the profession generally and of endeavouring to obtain recognition of the desires and aims of the Branches in Australia by the parent Association. For a considerable time the Federal Committee has conducted negotiations with the Council of the Association in London, with a view to an amendment of the constitution, to provide for a greater measure of autonomy of the overseas Branches than they have enjoyed hitherto. Dr. W. T. Hayward, the Chairman of the Committee, performed valuable services when in England in this direction. The question was taken a stage further when the Federal Committee set out in unambiguous terms the reforms which the Australian Branches desired to obtain. The Council of the parent body considered this categorical statement and recently made a series of proposals which was supposed to satisfy

the requirements of the overseas Branches. A conference was called of representatives of the overseas Branches and the Council. The Federal Committee asked Dr. R. H. Todd, their Honorary Secretary, a man of immense resource, of profound learning, trained as a barrister and experienced in the conduct of the most highly organized Branch of the British Medical Association in the Commonwealth and probably in the whole Empire, to appear as their advocate. The selection met with the universal approval of the Branches. The conference took place on July 5, 1921. From the very scanty information at present available, it is gathered that Dr. Todd, supported by the representatives of other overseas Branches, succeeded in persuading the Council that the proposals put forward would not satisfy any body of medical practitioners who placed a high value on real membership of the British Medical Association. We have discussed the significance of the original proposals at length in these columns and it is therefore unnecessary to traverse the same ground at this stage. The Representative Body met on the same days as did the Federal Committee. No sooner had the Committee completed their deliberations than a cable was received from Dr. Todd, conveying the important message that the Representative Body had authorized amendments of the Articles to enable the overseas Branches to retain all the privileges of membership of the British Medical Association after incorporation under the *Companies Acts* in the respective colonies, dominions or States. The Articles are to be further amended, to provide for the recognition of Federal Councils, which may likewise be incorporated. It is, of course, understood that the Memorandum of Association and Articles must correspond in every particular to those of the British Medical Association. In a word, the members of the Association in the Commonwealth have the great satisfaction of learning that Dr. Todd has secured for them, by a diplomatic presentation of their case, by friendly, yet unyielding, argument and by the weight of his personality, all that they can desire to possess. The British Medical Association in Australia stands under an obligation to Dr. Todd which it will be difficult to repay. In the course of a short time, when the necessary amendments of the Articles have been embodied in the constitution, the six Australian Branches will

be in a position to carry out without restriction all the objects of the British Medical Association, as set forth in the Memorandum of Association. Moreover, a Federal Council can now be established. Such a Council would be able to perform important executive functions, binding together the six Branches more securely than the Federal Committee could hope to do and centralizing that part of the work of the Association in Australia that is not strictly local. If the demand for a Federal Companies Act, which, we understand, is widely favoured in commercial circles, is granted after the next Federal Convention, the Federal Council would be able to become incorporated under such a statute. Otherwise, the question of its incorporation under one or all of the State *Companies Acts* will probably engage the attention of the Federal Committee in the near future. These set of circumstances render July of the year 1921 a very important epoch in the history of the British Medical Association in Australia.

The second important event is of a different character. Hitherto the Federal Committee has been compelled to approach the Government Departments with requests or demands. Often the Ministers, being influenced by political considerations, have not understood the professional aspect of the problems under discussion and the Committee has pleaded in vain for departmental action. The establishment of a Federal Ministry of Health has been the occasion of an important innovation. The Director-General of Health has approached the Federal Committee with the proposal that he meet the Committee when in session for the purpose of discussing the best means of carrying out the policy of the Ministry for the prevention of disease. It is a step of great significance that the chief permanent official of the Department should seek the collaboration of the medical profession, through the agency of the Federal Committee. We may therefore congratulate the Federal Committee, the British Medical Association and the medical profession in Australia on these two important events, which promise to increase the usefulness of the Association.

THE IMMEDIATE CAUSE OF AURICULAR FLUTTER

The cardiac irregularity which claims the imaginative title of auricular flutter, was first adequately described in January, 1909, by Hertz and Gordon

Goodhart. They detected it by means of a polygraphic jugular tracing in a woman aged 39 who had suffered for many years from a mitral valvular lesion of rheumatic origin. They noticed that the *a* waves numbered about 236 a minute and that they were small and regular. The *v* waves, due to contraction of the ventricles, numbered only 72 to 120. Two years later Jolly and Ritchie, of Edinburgh, published a more exhaustive description of the condition and gave it the name it now bears. The term "flutter," however, was first suggested by McWilliam 34 years ago for a condition (either fibrillation or flutter) which he produced experimentally by rapid faradization of the auricles of animals. That flutter was a definite clinical entity distinct from fibrillation was soon proved by the use of Einthoven's string galvanometer or electro-cardiograph, which in the hands of Dr. Thomas Lewis attained a wonderful value as an aid to diagnosis. Polygraphic tracings contain certain waves which are "instrumental" and others which evoke considerable differences of opinion in regard to their interpretation. A good tracing requires manual skill on the part of the physician and steadiness and co-operation on the part of the patient for its execution. The electrocardiograph practically obliterates the occurrence or the necessity of these personal factors. It records the electrical changes which take place in the heart muscle and which precede the various phenomena of contraction. Einthoven named the waves which appear in the electrocardiogram of a "normal" heart by the letters *P*, *Q*, *R*, *S* and *T*. We know that the wave *P* is due to the electrical changes which immediately precede auricular contraction. The waves *Q*, *R*, *S* and *T* are associated with ventricular contraction, but their exact cause is still a matter of surmise. A characteristic tracing is obtained when a physician uses the instrument to investigate a case of auricular flutter. The electrogram shows a small series of *P* waves, regular in amplitude and situated at equal distances from one another. Two, three or four of these *P* waves may appear before the waves due to ventricular contraction. It is assumed that under these circumstances there is a 2:1, a 3:1 or a 4:1 heart block respectively. The auricles during auricular flutter beat at a rate which varies from 230 to 350 a minute. If each stimulus succeeded in producing a ventricular contraction, life would for manifest reasons become rapidly impossible. Fortunately auriculo-ventricular dissociation occurs and this permits a patient to live in moderate comfort whose auricles are in a state of flutter for months or even years at a time.

The cause of flutter has until recently been unknown. Clinicians found that when the patient was treated with large doses of digitalis, flutter of the auricles was sometimes converted into fibrillation. But whether it could be explained much in the same way as fibrillation was a matter of conjecture. Dr. Thomas Lewis has contributed an excellent article to the subject in the *Lancet* of April 16, 1921. He describes the so-called "ring experiment" which was first demonstrated by Mayer in 1908. If a ring of muscle, shaped like the washer of a tap, is stimulated at the centre point of its lowest quadrant a wave of

contraction will travel in opposite directions along both limbs of the circle till they meet at the highest point. When this occurs the contraction ceases, since the whole ring has passed into a refractory state. In a short time the refractory state ceases and the muscle becomes again responsive, the lower quadrant recovering first. A second stimulus would now set in action a wave similar to the first. If stimuli are repeated at the same point at regular time intervals, but sufficiently slowly to allow the muscle at the point of excitation to recover its responsiveness between stimuli, two waves of contraction may exist in the ring, the one about to end at the uppermost quadrant when the other has just begun. If it should happen that the crest starting at the lowest point and travelling in one direction soon reaches a quadrant of muscle which is still in the refractory period, the wave will come to an end. The crest travelling in the opposite direction may find the muscle responsive. It will continue its course and when it reaches the highest point of the muscle ring, it will have no opposing wave to bring it to an end. The wave of contraction will pass on and will continue round the circle indefinitely, since each segment will have time to recover its responsiveness between contractions.

Now comes the application of this experiment to auricular flutter. By ingenious experiments on dogs in which auricular flutter indistinguishable in its features from the similar clinical condition of the human subject has been produced, Lewis has shown that a wave which begins, let us say, at the *vena cava inferior* will then travel along the *tenua terminalis*, move round the *vena cava superior* and thence pass to the left auricular appendix. At the same instant as the wave reaches this last position another emerges from the *vena cava inferior*. That these two waves are identical and are but phases of the same wave in circulation around the same path—in "circus movement" as it is called—was proved by calculating the time interval which would elapse if the wave which ended at the left appendix of the auricle passed round to the same position from which it started. It was found to correspond exactly with the time at which the second wave appeared.

Flutter may therefore be reasonably considered as due to circus movement in the auricle. The movement may be clockwise or anti-clockwise and it may take any particular continuous path. The wave has its offshoots into the surrounding muscle which is stimulated to contract in unison, but these centrifugal offshoots do not deflect the "mother wave" from its destined course. This explanation of a not uncommon clinical condition is as convincing as it is ingenious. It is another tribute to the value of methods of scientific precision in the study of disease.

THE BLOOD CREATININE IN ADVANCED NEPHRITIS.

Next to urea, creatinine is the most abundant nitrogenous constituent present in the urine of healthy persons. It is also the most constant of all urinary substances, since exercise and diet appear to have little influence upon it. It has for many years been considered a reliable criterion of the extent of endo-

genous nitrogen metabolism, though its exact origin is not definitely known. Mellanby's view was that creatinine was formed by the liver cells from the products of protein katabolism circulating in the blood, that it was transported to the muscles and there stored as creatine and that when full saturation of the muscles with creatine occurred the excess of creatinine was excreted by the kidneys. Myers, Folin, Denis, Fine, Killian and other workers have shown that creatinine is excreted without difficulty by healthy kidneys and that its retention in the blood is evidence of advanced renal functional disturbance. As nephritis progresses to a fatal termination, a high accumulation of blood creatinine occurs with which the renal tissues are unable to cope. Myers and Killian, in an illuminating paper published in the *Journal of Biological Chemistry*, March, 1920, stated that, of 85 patients whose blood had recently showed a creatinine content of five milligrammes in each 100 cubic centimetres, 80 had already died.

A further contribution to the study of the prognostic value of an estimation of the creatinine present in the blood of patients suffering from chronic nephritis has been made by Dr. I. M. Rabinowitch.¹ He points out that a high urea nitrogen content of the blood and a low phthalein excretion, while valuable signs of failing renal function, are not always dependable. The blood urea varies largely with the food intake and may be low, even when advanced and hopeless disease of the kidneys is present. The dye excretion also varies; in the presence of a high blood urea the phthalein excretion may be normal. Creatinine, however, being endogenous in origin, is not subject to the same variations. A creatinine content of 2.5 to 3.0 mgrm. in each 100 c.cm. is suspicious of failing renal function. When the figure lies between 3.0 mgrm. and 5.0 mgrm. the prognosis is unfavourable and when it exceeds 5.0 mgrm. an early demise of the patient is probable. The values for healthy individuals vary from 1.0 to 1.5 mgrm. in each 100 c.cm. of blood. Dr. Rabinowitch reports fourteen cases of fatal nephritis in which a blood creatinine determination was done. In each case the figure exceeded 5.0 mgrm., the highest individual value being 10.0 mgrm.. He points out, however, that in estimating the prognosis, the physician should differentiate between two types of retention. In the first there is a gradual increase in the non-protein, nitrogenous elements of the blood, the uric acid being affected first, then the urea and lastly the creatinine. This is the sequence in chronic nephritis. In the second type the retention is sudden and complete and may be due to acute nephritis or mechanical obstruction of the urinary outflow, as in certain cases of urethral stricture, prostatic enlargement or ureteral calculus. In these instances the creatinine retention may be great, but with the relief of the obstruction the concentration falls. The prognosis of these cases is, of course, not as grave as that of chronic nephritis.

With further evidence the test should be found of considerable prognostic value. The days when the clinician practised his independent art are fast rolling by. The bio-chemist is making extensive inroads into the domain of clinical medicine.

¹ Canadian Medical Association Journal, May, 1921.

Abstracts from Current Medical Literature.

SURGERY.

(47) Post-Operative Mortality of Appendicitis.

Herbert H. Brown (*Lancet*, January 15, 1921) states that the Registrar-General's statistics show that the death rate from appendicitis in England and Wales was in 1918 double the rate for 1901. Moreover, the most dangerous period is statistically revealed as that of childhood and early youth. The author therefore pleads for early diagnosis and operation. After two days the risk of operation is greatly increased, whereas operation in the second week which usually consists of mere drainage, is attended with little danger. In some of the delayed cases, especially in children, death occurs from direct blood infection at the time of operation. The writer is of the opinion that if the patient is seen on the third, fourth, fifth or sixth day of an attack it is better to wait till the second week to enable the patient to develop a certain amount of immunity against blood infection.

(48) The Acute Abdomen.

R. C. Coffey (*North West Medicine*, January, 1921) affirms the well recognized fact that when the appendix is located in either the false or the true pelvis, the pain is as likely to be left-sided as right-sided and when it lies beneath the terminal mesentery of the ileum and points upwards and to the left, the pain will be referred to the left upper abdomen. Where vomiting precedes the pain in an acute abdomen the condition is not appendicitis. In distinguishing appendicitis from obstruction, it is necessary to consider the onset of the pain (which in appendicitis is sudden, severe and constant), the vomitus (which in appendicitis is general bilious and in obstruction alimentary bilious and fecal in that order), the temperature, the pulse and the question of visible peristalsis. The pain of acute pancreatitis is agonizing and prostrating and tends to be localized in the epigastrium. Vomiting is persistent, constipation complete and collapse great.

(49) Hemorrhoids.

R. Bensaude and H. Ernst (*La Presse Médicale*, March 2, 1921), discussing the diagnosis and treatment of hemorrhoids, insist on the need for proper examination in order to avoid the mistakes so commonly made. They recommend digital eversion of the mucosa and the use of a special form of Bier's cup which, under negative pressure, everts and exposes the anal mucosa. In treatment a new plant (*teskra*, *Echinospinosus*) has been found to yield a glucoside and an alkaloid of great vaso-constrictor power. Cold rectal douches are valuable. On the subject of the infection of coagulants, such as carbolyzed glycerine, the writers do not commit themselves, but they

have found injections of quinine and urea valuable for ambulatory treatment. These injections suppress hemorrhage and lessen prolapse, but should not be employed in inflamed, strangulated or external hemorrhoids.

(50) Cholecystectomy Without Drainage.

A. Murat Willis (*Journ. Amer. Med. Assoc.*, March 12, 1921) attacks the indiscriminate use of drainage after cholecystectomy and quotes Moynihan to the effect that drainage is rather a cause of sepsis than an escape from it. Further, it causes weakness of the abdominal wall and an increased number of adhesions and prolongs the convalescence. Walling-off of the drain occurs very rapidly in experimentally produced peritonitis. Hence its efficacy has been over-estimated. The danger of persistent oozing of blood after the operation is greatly exaggerated. A dry pack left in for a few minutes usually checks capillary hemorrhage.

(51) Splenectomy in Pernicious Anæmia.

H. Z. Griffin and T. L. Szlappa (*Journ. Amer. Med. Assoc.*, January 29, 1921) have investigated the results of splenectomy performed on 50 patients for pernicious anæmia. The mortality was 6%. Ten patients survived the operation for three years or more and five are still living after more than four and a half years. It is considered that in addition to the immediate remission which occurred following splenectomy the operation prolonged life in at least 20% of cases. No pre-operative characteristic is known from which a favourable result can be prophesied, but, in the presence of marked hemolysis, the patients show great immediate improvement.

(52) Abdominal Incisions.

Chas. W. Hennington (*New York State Journal of Medicine*, March, 1921), in a consideration of various abdominal incisions, places great emphasis on the preservation of muscular tissue and its nerve supply. McBurney's incision represents the ideal type. The low McBurney incision is valuable in that it permits pelvic exploration. The other lateral incision through Petit's triangle is limited in application, but is useful as an approach to a retro-caecal appendix or to the kidney and ureter. No true muscle-splitting operation is feasible for the gall bladder, owing to the course of the nerves. The transverse incision remains unpopular in the upper abdomen owing to the difficulty of enlarging and altering the wound, so that the classical longitudinal incision remains the operation of choice. Sometimes it may be modified with advantage by making the incision through the posterior sheath transversely. The mesial portion of the rectus muscle readily recovers its innervation, so that muscle splitting is not as serious as separating the sheath from the muscle. In the lower abdomen the classical longitudinal mid-line incision remains the operation of choice.

(53) Recto-Colic Rupture from Compressed Air.

G. Jean (*Bull. et Mém. de Soc. de Chir.*, April 6, 1921) reports two cases of rupture of the rectum and colon by currents of compressed air. These two make a total of 28 cases in the literature. The anatomical lesions in these accidents involved the sigmoid, but any part of the large, and even the small, intestine may be involved. It is on the recto-sigmoid junction and the pelvic colon that the gravamen falls. Tears are often multiple and rupture of the colon takes place at the anterior longitudinal muscular band as a rule and not at the mesenteric border, as experiments *post mortem* would indicate. The difference of degree to which the coats of the bowel are affected is remarkable. The serous and muscular are widely burst, the mucous is merely thinned out and the perforation of the mucosa comparatively reduced. Symptomatically, acute pain, syncope, enormous distension, tympanites and subcutaneous emphysema are present. Laparotomy with suture, resection or colostomy, according to the conditions found, is indicated. When the lesions extend down to the rectum, resection of colon and rectum may be necessary, with the formation of an abdominal anus.

(54) Sacralization of the Fifth Lumbar Vertebra.

Maurice R. J. Hayes (*Dublin Journ. Med. Science*, April, 1921) describes the procedure called sacralization as the partial or complete fusion of the fifth lumbar vertebra with the sacrum, or of the articulation of its over-grown transverse process with the iliac bone. The condition may be bilateral and symmetrical or it may be unilateral. It may be associated with *spina bifida*. Pain is the chief clinical manifestation, but is variable. The diagnosis has to be made from sacro-iliac disease, in which compression increases the pain, from Pott's disease, in which the rigidity and increased pain on movement are characteristic, and from osteoarthritis. In sacralization the patient is usually a healthy young person and the pain is usually intermittent. Radical treatment, consisting of excision of the transverse process is uncertain in its results and palliative treatment with X-rays, electrical currents, etc., is recommended.

(55) Traumatic Lesions of the Pituitary Body.

L. Reverchon and G. Worms (*Bull. et Mém. de Soc. de Chir.*, May 18, 1921) give details of a case of fractured base of the skull. The patient was under observation for several months with bilateral paralysis of the fifth, sixth and seventh cranial nerves and with signs of a pituitary lesion. Autopsy revealed a pituitary gland which was reduced to a mere nodule and was surrounded by a dense capsule of fibrous tissue. The pituitary symptoms were polydipsia, polyuria, marked anæmia and asthenia, arterial hypotension and a psychical state of puerility and apathy. Lesions

of the pituitary gland should henceforth find a place in the complications of basal fracture.

GYNÆCOLOGY AND OBSTETRICS.

(56) The Problem of Effective Sterilization.

J. Whitridge Williams (*Amer. Journ. of Obstet. and Gynec.*, May, 1921) discusses the question of effecting sterilization during certain obstetrical operative procedures. He reviews the cases of 44 out of 20,000 odd patients in the obstetrical service of the Johns Hopkins Hospital, who had been treated according to his method. In 29 it was effected in connexion with some variety of Cæsarean section. Of these cases 18 were associated with supra-vaginal hysterectomy. The hysterectomy was performed at a second or third Cæsarean section done on account of contracted pelvis in 14 of these cases, and on account of the existence of serious disease in the other four cases. In 11 others sterilization was effected following Cæsarean section for various causes, but mostly for contracted pelvis, by ligating both tubes and burying the uterine ends between the folds of the broad ligaments. The remaining 15 sterilization procedures were done during the course of pregnancy, and were as follows: 6 cases of supra-vaginal hysterectomy and 9 of hysterotomy, followed by tubal sterilization for various diseases complicating pregnancy. As regards the first series of 14 cases in which supra-vaginal amputation of the uterus was performed for contracted pelvis, in no instance was it done at a first labour. In one case it was on account of an aortic insufficiency which had followed the first pregnancy. In another the second section showed that the uterine wall was so weakened that rupture was feared in the event of another pregnancy occurring. Of the remaining 12 patients, all of whom had had two or more children either by previous section or pubiotomy, sterilization was effected either by the urgent request of the patient or of her husband or because the author felt that the patient's obstetrical experience had been sufficiently extensive. In four other cases the uterus was removed on account of the existence of disease which imperilled the life of the patient and was likely to do so again in any future pregnancies. Three of these patients had failure of cardiac compensation and the fourth suffered from chronic nephritis. Of the 11 operations of sterilization at Cæsarean section by section and burying of the tubes, two were performed at the first section on account of chronic nephritis, 6 at the second section at the patients' urgent request and 3 at the third section. The author holds that owing to the steady improvement in the results following Cæsarean section, it is a fair procedure to allow a patient to undergo a third section, but that sterilization is justified at the third section on account of the patient's obstetrical experience. In those cases in which

sterilization was effected during pregnancy, there was a vital necessity for the interruption of pregnancy on account of the existence of incurable or progressive disease. In all these instances it was evident that the pregnancy should not be allowed to continue, and that further pregnancy should be prevented. The methods available were (i.) supra-vaginal hysterectomy with the removal of the unopened pregnant uterus; (ii.) opening of the uterus by means of a small fundal incision and evacuation of its contents, followed by double ligation of each tube and the burial of the uterine ends between the folds of the broad ligaments; and (iii.) induction of abortion by the vaginal route followed by operative sterilization at a later date. The author has not used the third method since he considers that it is quite as conservative and certainly more economical of the patient's time to complete the entire operation at one sitting. Out of 15 cases he used the first method 6 times and the second 9 times. In the former cases the operation was performed twice on account of heart disease, three times on account of chronic nephritis and once on account of advancing tuberculosis. Of the patients in the latter group one had heart disease, three were tuberculous, four had chronic nephritis and one had only one kidney, which was the seat of chronic nephritis. There have as yet been no subsequent pregnancies in any of the patients treated.

(57) Picric Acid in the Preparation of the Skin.

An investigation was carried out by H. W. Hewitt (*Amer. Journ. of Obstet. and Gynec.*, April, 1921) as to the relative values of various methods of preparation of the skin. For each experiment three areas of skin were selected. A scraping was made from each and placed in culture media; these were used as controls. One of the skin areas was then treated with the antiseptic for one minute, a second area for two minutes and the third for three minutes. All were washed with sterile water to remove any excess of antiseptic. Scrapings were made and placed in culture media. Using fresh skin areas, the tests were repeated five or more times for each fresh antiseptic. The following methods were tested: (1) Soap and water, with scrubbing for 15 minutes. (2) Ethyl alcohol in various strengths from 50% to 95%. (3) Ether. (4) Tincture of iodine 3%. (5) Tincture of iodine 7%. (6) Iodine in benzene. (7) MacDonald's solution. (8) Picric Acid solution in ethyl alcohol, 6% strength. (9) Ether applied for three minutes, followed by picric solution applied for three minutes. The best result was given by the last-mentioned method; all cultures were negative in every case. Iodine in benzene and iodine 7% likewise gave excellent results. MacDonald's solution was also satisfactory. All the other methods gave varying numbers of positive cultures. Tincture of iodine 3% gave negative cultures after one minute, but

they became positive after one hour. The ether-picric acid sequence has been tested at the Grace Hospital, Detroit, on nearly a thousand patients with satisfactory results. The merits claimed for it are many, viz.: It is simple, cheap and efficient. It does not injure the skin in any way and may be used on any part of the body. It does not injure the peritoneal coat of the intestine. It contains no proprietary preparation and its antiseptic strength may be standardized. The picric acid solution was made by saturating a 70% ethyl alcohol solution with picric acid. This made a 6% solution. It stains the skin, but the stain may be removed with a 5% solution of carbonate of soda or a 25% solution of ammonia in ethyl alcohol if used immediately after the operation.

(58) Fibroma of the Ovary.

E. D. Clark and W. E. Gabe (*Amer. Journ. of Obstet. and Gynec.*, March, 1921) report a case of fibroma of the ovary in a single woman, *et. 46*. The mass almost filled the pelvis. It was smooth, hard and spherical. The tumour was of firm consistency with a well-developed fibrous capsule. Section showed rather loosely connected fibrous tissue. In reviewing the literature the authors state that fibromata comprise approximately 2% of all ovarian tumours. They conclude that they are sufficiently rare to justify the report of all carefully studied cases. The diagnosis is dependent solely on microscopic examination. In the hard, unilateral, movable tumour with ascites in which the more common causes of ascites can be ruled out, ovarian fibroma is highly probable. The treatment is operative, the prognosis good. The gross pathology of the condition is extremely variable; the microscopic pathology must show a certain regularity of the individual fibres or muscular cells and strands despite varying quantities of cells, fibres, vessels and degenerative changes.

(59) Splenic Leukæmia in Pregnancy.

G. W. Kosmak (*Amer. Journ. of Obstet. and Gynec.*, February, 1921) in a report of two cases of splenic leukæmia in pregnancy has reviewed the literature on this subject. Twelve cases have been reported in which a definite diagnosis has been made from the blood picture. All patients but one were multiparæ and the majority were from 32 to 36 years of age. The mother survived in only two cases, but for how long is not stated. In the majority death occurred soon after labour. Though rare, this condition should be borne in mind, particularly when an anæmic patient does not recover under proper treatment. The blood should be carefully investigated for the occurrence of pregnancy in this disease indicates a most unfavourable outlook for the mother and conception should be prevented. When the disease is already present in pregnancy abortion seems indicated. The spleen is constantly enlarged in this disease. This physical sign should be investigated in every anæmic patient.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on April 1, 1921, Dr. A. Graham Butler, the President, in the chair.

Dr. V. McDowall demonstrated skiagrams illustrating the following conditions: (i.) A fish spine embedded in a finger. (ii.) A calculus in the right kidney. On the left side there were several shadows below the normal kidney area. Dr. McDowall thought that these shadows were caused either by a dermoid cyst or by a hydronephrotic kidney. (iii.) Adhesions of the transverse colon after hysterectomy. (iv.) Gastric ulcer. The diagnosis had been made of calculi in the gall bladder or kidney. The X-ray appearances did not support this diagnosis. A bismuth meal had been given and the presence of a gastric ulcer demonstrated.

Dr. Andrew Stewart read a paper entitled "A Criticism on Modern Opinions and Erroneous Impressions Held by the Profession and the Laity Regarding Pulmonary Tuberculosis" (see page 75).

Dr. A. C. F. Halford asked Dr. Stewart if he regarded small elevations of temperature as indicative of early pulmonary tuberculosis. He, the speaker, thought that they were due to mixed infection. Patients frequently became afebrile during transport, but the fever returned when they were put to bed. He was of opinion that tuberculosis resulted from the transference of infection from one person to another. Adult infection was a recrudescence of tuberculosis in infancy. Attention to milk as a possible source of infection was not really a necessary expedient, as the majority of infections were not of bovine origin.

Dr. E. S. Meyers spoke of his experience at the Brompton Hospital. No special precautions were taken regarding spitting or the segregation of patients. He dealt with the difficulty of early diagnosis, especially for the general practitioner. It was rare, both in Queensland and in the southern States, to discover clinical signs of pulmonary tuberculosis in school children. He maintained that more research work was needed in regard to prevention. He asked Dr. Stewart whether he could inform him what was the relative incidence of tuberculosis among immigrants as compared with the native born population.

Dr. S. F. McDonald agreed that the psychological element was an important one, especially in connexion with farm colonies. The mental state of the patient was very important, particularly in the early stages. The treatment learned at the sanatorium often prevented the patient from obtaining employment after discharge. The patient became depressed and finally disregarded the instructions received at the sanatorium, with the result that he returned after a time in a worse condition.

The channel of infection had not been definitely determined. Fraser had shown that surgical tuberculosis depended on milk infection. Sputum was another source of infection. He claimed that these avenues of infection should be closed. He asked Dr. Stewart how he proposed to stamp out tuberculosis.

Dr. F. G. Power said that in the Scottish sanatoria, unlike the Brompton Hospital, spitting was regarded as a deadly sin. He was convinced that this precaution was essential. He pointed out that, while milk was regarded as a vehicle of infection, butter and cheese were usually disregarded. It was obvious that infection conveyed by milk could not be controlled unless butter and cheese were included among the sources. It was often very difficult to diagnose tuberculosis in the consulting room. He often received, instead of sputum, a mixture of saliva and mucus. It was necessary to make repeated examinations of slides before the failure to find bacilli had any diagnostic significance. Dr. Power thought that if the patient discharged from a sanatorium were to carry out the instructions in private life he would probably be ostracized. He recommended the members to study Paterson's "Shibboleths of Tuberculosis."

Dr. C. E. Tucker asked Dr. Stewart whether tuberculous patients should be advised not to marry. Would their children inherit a lessened resistance to the disease?

Dr. McDowall said that Dr. Stewart had spoken of the advantage of screen examination over skiagrams in the X-ray diagnosis of tuberculosis. He advocated both. The

screen examination revealed gross lesions, such as an infection at the apex of the lung and the range of movement of the diaphragm. On the X-ray plate the finer details of fibrotic changes and altered density of the lung could be studied. Unfortunately, every lung presented its own characters; there was no standard for a normal lung.

Dr. A. Graham Butler thanked Dr. Stewart for his interesting paper. He agreed with him that the measurement of the patient's temperature was often very casually done. There was a need to standardize the methods of recording temperatures. In his experience, it was difficult to observe elevations in temperature in pure tuberculosis. The fetish of waiting for the presence of bacilli in the sputum before making a diagnosis was pernicious and delayed progress in treatment.

In his reply, Dr. Stewart thought that Dr. Halford had confused infectivity and infection. Everyone was infected with tuberculosis. It would be dangerous for a baby to stay in a house in which there was a person suffering from tuberculosis; the child would almost certainly become infected.

He maintained that mixed infection was a negligible factor in tuberculosis. In his opinion, the appearance of clinical signs in adult life indicated a fresh infection and not a recrudescence. He held that the channels of infection had not been properly investigated. The only sure method of prevention was the establishment of village schools. He would permit tuberculous people to marry, but they should not have children. If children were born of tuberculous parents, the mothers should not nurse them.

Dr. J. V. Duhig read a paper entitled "The Wassermann and Other Complement Fixation Tests in Diagnosis and Their Bearing on Practice." A short discussion ensued.

A meeting of the South Australian Branch was held at the Lister Hall, Adelaide, on April 28, 1921, Dr. H. S. Newland, C.B.E., D.S.O., the President, in the chair.

Dr. L. O. Betts exhibited a barley grass seed, 3.75 cm. long. He had removed it from an abscess cavity which pointed in the chest wall of an infant of nine months below the angle of the right scapula. The child had inhaled the seed only three weeks prior to its removal from the abscess cavity.

Dr. H. S. Newland showed two X-ray plates, which demonstrated the presence of pelvic phleboliths simulating ureteral stones. In both cases the diagnosis of ureteral stone had previously been made, but the X-ray photographs, taken with a ureteral catheter *in situ*, showed that the shadows were in reality due to pelvic phleboliths.

Dr. L. O. Betts reported a case of torsion of the small intestine (see page 81).

Dr. H. S. Newland stated that cases of torsion of the small intestine were exceedingly rare. He had assisted at one operation for the cure of such a condition. He had also observed cases of torsion of the caecum, hernial sac and appendices *epiploicae*.

Dr. R. E. Magarey referred to one patient on whom he had operated for torsion of the small intestine. In his case the torsion recurred after two or three years.

Dr. R. H. Marten was informed, in answer to a question, that the direction in which the gut in Dr. Betts's case had been twisted, was left to right. He stated that, in his experience, the torsion had always been to the right.

Dr. C. T. Champion de Crespigny read a paper entitled "Notes on a Typhoid Carrier" (see page 79).

Dr. H. Swift said that, if the results described in Dr. de Crespigny's paper were accepted, the future treatment of typhoid carriers should be vaccine therapy.

Dr. R. H. Pülleine remarked on the frequent occurrence of typhoid carrier and quoted numerous cases reported in the literature.

Dr. F. S. Hone pointed out that the carrier under discussion had infected fourteen persons, of whom four had died—a record instance for South Australia as far as was known. He was of the opinion that in South Australia the problem of typhoid carriers had not been adequately considered. He referred to the prominence given to this problem in America, where one writer asserted that 41% and another that more than one-half of the number of cases of typhoid fever were due to carriers. It appeared

that the presence of typhoid bacilli in the feces was frequently intermittent and that many examinations of the feces were necessary. He considered that in South Australia an endeavour should be made to discover what proportion of typhoid patients leaving hospital were carriers. Abortive cases frequently occurred among returned troops who had been inoculated against the disease. He considered it advisable that all members of a household in contact with a carrier should undergo prophylactic inoculation and that it should be a rule that all nurses be inoculated. The tion to their nursing duties was, in his opinion, a poor one, since, in the early stages of their training, they were not required to do much nursing. He considered all typhoid patients should be examined during convalescence and that an endeavour should be made to inoculate workmen on all great public works. It appeared that vaccines did not always succeed and it would be interesting to see whether intravenous inoculation would invariably prove effective.

Dr. W. T. Hayward, C.M.G., was of opinion that the honorary medical staff of the Adelaide Hospital should call the attention of the board of management to the danger arising from the non-inoculation of nurses against typhoid fever. If inoculation in the army had been so successful, why should not the same principle be applied to civilians? Bilharziosis had previously been considered almost incurable, but could now be successfully treated; and that fact appeared to him to hold out hope that a typhoid carrier could be treated with equal success.

Dr. R. H. Marten mentioned that statistics taken in New York showed that 2% of typhoid patients became typhoid carriers. He considered that stringent rules concerning contacts should be established.

Dr. H. S. Newland asked for an explanation of the fact that in 2% of cases typhoid bacilli were retained in the bowel and not in the remaining 98%. Was the reason to be found in a failure of the spleen to eliminate antibodies? Possibly the injection of vaccine direct into the portal system might be more efficacious. A serum might possibly be injected into the spleen.

Drs. A. A. Lendon and G. R. West also took part in the discussion.

Dr. C. T. C. de Crespigny stated, in reply, that, on the subject of the apparent cure of the carrier in question, he would hesitate to say that it was due to the vaccines, since periods of intermittence were common enough. The interesting feature was that the gall bladder and bile had apparently not suffered by the presence of the bacilli. Doubtless, in every case, the liver was invaded by typhoid bacilli. He had seen sections of the livers of many patients who had died of typhoid fever and infective foci had always been found. Dr. S. W. Patterson, of Melbourne, had told him that in four cases the injection of typhoid bacilli therapeutically had been tried. In two cases the temperature had fallen by crisis and had not again risen, while in the other two it had been very considerably reduced. Of the two types the urinary carrier was regarded as the more virulent. With regard to the inoculation of nurses, all probationary nurses in Melbourne were inoculated during their first month in hospital. War experience had shown that inoculation was almost a certain protection.

MEDICO-POLITICAL.

MEETING OF THE FEDERAL COMMITTEE.

The Federal Committee of the British Medical Association in Australia met at the British Medical Association Library, 30-34 Elizabeth Street, Sydney, on July 20 and 21, 1921.

The following representatives were present: New South Wales Branch: Dr. J. Adam Dick, C.M.G., and Dr. David Thomas. Victorian Branch: Mr. G. A. Syme and Dr. R. H. J. Fetherston. Queensland Branch: Dr. W. N. Robertson, C.B.E., and Dr. J. Lockhart Gibson. South Australian Branch: Dr. W. T. Hayward, C.M.G., and Dr. H. S. Newland, C.B.E., D.S.O. Tasmanian Branch: Dr. W. W. Giblin, C.B., and Dr. E. Brettingham-Moore. Apologies for non-attendance were received from Dr. G. W. Barber, C.B., C.M.G., D.S.O.,

and Dr. W. P. Seed, the representatives of the Western Australian Branch. The former had requested Dr. Lockhart Gibson and the latter Mr. G. A. Syme to represent him.

Correspondence.

Letters were read from Sir A. Jarvie Hood, Sir Dawson Williams and Sir Squire Sprigge, thanking the Federal Committee for their expressions of congratulation on their knighthood.

Letters from the Medical Secretary of the British Medical Association dealing with the subscription of members of overseas Branches and with the adjustment of a supplementary grant to the Branches were read. The Council proposed to recommend to the Representative Body that the subscription of members of overseas Branches should be reduced from two guineas to one and a half guineas and that the grant allowed to Branches per member be increased from 4s. to 6s. The net amount that would be payable, would consequently be 25s. 6d. instead of £1 18s., the amount paid for the current year. In the past the net subscription payable to the British Medical Association in London was 21s.

Medical Treatment of Discharged Soldiers.

Mr. G. A. Syme referred to the interview of members of the Federal Committee with the Acting Minister of Repatriation on February 3, 1921, in connexion with the payment for medical services rendered to discharged soldiers for the Repatriation Department (see *The Medical Journal of Australia*, February 19, 1921, page 164). The Victorian Branch considered the rate inadequate. He pointed out that the Acting Minister had promised to give the matter his careful consideration before the end of the financial year. The members of the deputation had undertaken not to press for the reforms suggested until the estimates for the financial year 1921-1922 were under consideration. In the course of the discussion that ensued, the opinion was expressed that it would be necessary to remind the Minister for Repatriation of the promise of Mr. Rodgers, to prevent the matter from being shelved. At the present time there appeared to be a want of uniformity of payment. The medical profession had a right to ask for adequate remuneration. The motion standing in the name of the Victorian Branch was formally proposed:

That the Minister for Repatriation be interviewed again regarding the payment for medical services rendered to the Repatriation Department, as the Federal Committee considers the present rate inadequate.

On the motion of Dr. W. N. Robertson, seconded by Dr. J. Lockhart Gibson, the following amendment was carried:

That a letter be written to Senator Millen, reminding him of the promise given by the Acting Minister for Repatriation to the deputation on February 3, 1921, and asking him to receive a further deputation from the Federal Committee before the estimates were drawn up. The amendment on becoming a substantive motion was carried.

The subject of the remuneration of medical officers attending patients in the hospitals formerly military hospitals and now under the financial control of the Department of Repatriation, was also discussed. The Acting Minister for Repatriation and the Minister for Defence had admitted in February, 1921, that the military pay according to rank was insufficient in the circumstances and that the remuneration should be placed on a civil basis. In view of the uncertainty concerning the rates of payments made in the different States, the following motion was proposed and carried:

That a letter be written to Dr. J. F. Agnew, Principal Medical Officer of the Repatriation Department, asking for information concerning the rates of pay for medical officers of the resident staff and of the visiting staff in each of the hospitals taken over from the Department of Defence in the several States and that a similar letter be written to each Branch of the British Medical Association in Australia.

The Sale of Old X-ray Plates.

The attention of the Committee was directed to an advertisement which had recently appeared, announcing the fact that the old X-ray plates taken at military hospitals in the

Commonwealth were for sale. The commercial value of these plates would be very low, since they merely represented small panes of glass which required to be cleaned. On the other hand, it was urged that each of these plates was a valuable record of the lesions of ex-soldier patients, many of whom were suffering from permanent disabilities. The skiagrams in many cases would be important guides to future treatment. In the second place, the evidence of the nature and extent of war injuries could only be demonstrated by the production of a skiagram when a final settlement of the claims for compensation was to be made. If these plates were destroyed, the Department would be involved in the relatively high cost of having new skiagrams taken. In the third place, it was stated that these records could be used for teaching purposes in military surgery. It was unanimously agreed that the destruction of these very valuable records would be a deplorable event. After a full discussion of the subject, it was resolved:

(i.) That a letter and a telegram be sent to the Minister for Defence, asking that the X-ray plates taken at military hospitals in Australia be preserved for future reference and be not sold as advertised.

(ii.) That a copy of the telegram be sent to the Minister for Defence and also to the Director-General of Medical Services.

Repatriation Assistance to Returned Medical Officers.

The Honorary Secretary reported that no further communication had been received from the Repatriation Commission in regard to the granting of assistance to medical men on their return to civil medical practice from active service (see *The Medical Journal of Australia*, February 19, 1921, page 161). The Committee recognized the futility of prosecuting this subject further.

Fees for Life Insurance Examination and Report.

A letter from the South Australian Branch was read relative to the question of a proposed increase in the fees charged for the examination of proponents for life insurance for large amounts. The Branch did not recommend any alteration of the policy, but desired to have the question discussed. It was pointed out that the fee of one guinea might be regarded as no longer adequate for a thorough examination and for a full report. On the other hand doubt was expressed whether the life insurance companies would entertain the proposal of an increase of the fees for ordinary work. In all cases in which a large sum was involved, two independent examinations were required and consequently the justification for the demand of a higher fee was questioned. It was therefore determined to receive the correspondence.

The Status of Scientific Bodies.

The Queensland Branch asked the Federal Committee to consider a resolution which had been adopted by a meeting of representatives of certain scientific bodies, convened by the Australian Chemical Institute in Queensland, as follows:

That this meeting of professional delegates bring this matter before their respective associations, asking them to consider the advisability of united action with a view to obtaining Federal legislation which would give legal Federal status to any scientific body throughout Australia desiring it.

Dr. J. Lockhart Gibson admitted that he was not quite clear whether it was proposed to ask for Federal legislation to enable scientific bodies to become incorporated under a Federal companies act, or whether the desire was for an enactment to render Federal registration feasible. Several members expressed the view that the resolution of the meeting of delegates referred to above was too indefinite to enable them to take any action. After further discussion, it was assumed that the legislation sought was a Federal companies act. A motion to the following effect was proposed:

That the Federal Committee approve of the principle contained in the motion of the Queensland Branch and that consideration of the matter be postponed for six months.

The Committee, however, adopted the amendment that the question be postponed for further information.

State Registration of Medical Practitioners.

Dr. Lockhart Gibson called the attention of the Committee to the fact that some medical practitioners registered in one State neglected to seek registration when they undertook temporary work in another State. He raised the question of the position of members of the British Medical Association who were registered in one State, but who were ineligible for registration in another. It was explained that the conditions of membership of the British Medical Association depended on registration of the applicant for membership under the *Medical Acts* of the United Kingdom or eligibility for registration under these acts, subject to the rules of the Branches outside the United Kingdom. A medical practitioner who was not eligible for registration in any Australian State, would consequently not be eligible for membership of the British Medical Association. On the other hand, a member transferred to any given Branch was not obliged to be registered in the corresponding State. It was in the interests of the individual practitioner that he should become registered in a State in which he was engaged in practice. On the motion of Dr. Lockhart Gibson, seconded by Dr. W. N. Robertson, it was resolved:

That the Federal Committee expects that members of the medical profession applying for membership of the British Medical Association will become registered in the States in which they practise.

Deportation of Dr. Max Herz.

The Honorary Secretary reported that notwithstanding the representations made to the Prime Minister and other action taken regarding the deportation of Dr. Max Herz, the authorities had apparently not given effect to the determination of the Aliens Board. The Prime Minister had promised that the case of Dr. Max Herz should be considered on its merits. Information had subsequently been received that the question at issue was being considered, but no intimation had been communicated to the Committee concerning the results of the inquiries. It was resolved:

That letters be written to Dr. Earle Page and to the Solicitor-General, inquiring whether any further steps were being taken in the matter of the deportation of Dr. Max Herz and that Dr. Earle Page be asked to bring the subject up for discussion in the House, if this course appear to him to be advisable.

Remuneration of Ships' Surgeons.

A motion from the Western Australian Branch was presented to the effect that ships' surgeons should receive £40 a month, with the right of charging fees.

The Honorary Secretary reported that information had been sought from several shipping companies whose ships were engaged in coastal and overseas traffic. There was a clause of the *Navigation Act* requiring all vessels carrying passengers on journeys of 500 miles or more without calling at a port, to carry a surgeon. This clause, however, has not yet been put into operation. Some companies paid their ships' surgeons £25 a month and gave them the right to charge fees for attendance on passengers. Other companies paid £10 a month, but did not allow their surgeons to accept private fees save for operations or unusually serious illness.

Mr. G. A. Syme pointed out that when a traveller stayed at an hotel he had to provide himself with medical attendance at his own cost in the event of illness. He could conceive no reason why a traveller by sea should receive gratuitous medical attendance and he thought that this principle should be established. The shipping companies, however, had an obligation to their own officers and the members of their crews and it was, therefore, right that the ships' surgeons should receive a retaining fee for the purpose of rendering medical assistance to any member of the ships' company.

Dr. J. Lockhart Gibson moved and Dr. David Thomas seconded:

That the Federal Committee recommend the Branches to adopt resolutions requiring ships' surgeons to be paid at the rate of £40 per month with the right of charging fees for attendance on passengers.

As a result of further discussion, Dr. R. H. J. Fetherston proposed an amendment with the support of Dr. W. N. Robertson to alter the sum of £40 to £25. The amendment was carried and the motion as amended was adopted.

Medical Officers' Relief Fund (Federal).

The revenue account and balance sheet of the Medical Officers' Relief Fund, duly audited by Messrs. L. S. Drummond & Company, together with a letter from Dr. W. H. Crago on behalf of the Trustees, were submitted. In his letter Dr. Crago informed the Committee that the Federal Taxation Department had demanded that an income tax return should be made. He had obtained counsel's opinion and had submitted a return under protest. The outstanding promises amounted to £1,178, which Dr. Crago anticipated would be paid into the fund during the current financial year. The total assets amounted to £10,838 8s. 3d.. Of this amount, £4,836 13s. 4d. had been advanced as loans to returned medical officer to assist them in re-establishing themselves in practice. The sum of £250 had been invested at 5% for the benefit of the widow of a medical officer who had died on active service. From the revenue account it appeared that five sums varying from £50 to £100 had been given for the purpose of assisting a medical man and the dependants of medical officers who had fallen in the war. The amount of interest received was £473 17s. 7d., while the benefactions amounted to £310.

It was pointed out that in several cases the Trustees had reduced the amount of assistance asked for on the grounds that unless strict economy were exercised at the early stages, the amount available in the fund would be insufficient to cover the later calls including those for the education of the children of deceased medical officers. While the members recognized the wisdom of the exercise by the Trustees of cautious economy to provide for future eventualities, it was thought that it might be possible to grant somewhat larger amounts to the beneficiaries.

Australasian Medical Congress (British Medical Association).

A letter was read from the New Zealand Branch of the British Medical Association, acknowledging a communication from the Federal Committee, informing the New Zealand Branch of the actions proposed and taken in connexion with the establishment by the Federal Committee of the Australasian Medical Congress (British Medical Association). The New Zealand Branch expressed their approval of these steps and undertook to co-operate with the Federal Committee, as desired.

The Chairman (Dr. W. T. Hayward) reminded the Committee that the Congress would be started *de novo* and that the Committee would not recognize as a precedent the previous order of the places of meeting.

Invitations were read from the Western Australian Branch, from the Tasmanian Branch and from the Victorian Branch to hold the first session in 1923 in the capital city of the respective States.

Dr. H. S. Newland stated that the view had been expressed that the first session of the new Congress should be held in one of the larger cities in the Commonwealth. It was highly desirable that the first session should be largely attended and that it should be organized in such a manner that its scientific success would be insured. In these circumstances something more than a mere hint had been passed to the Victorian Branch to the effect that an invitation from the Branch would be welcomed. Dr. Newland, therefore, moved and Dr. Robertson seconded:

That the invitation of the Victorian Branch be accepted.

Dr. Lockhart Gibson expressed the view that there were many reasons why Congress should go to Western Australia. It was twenty years since the medical profession in Perth had issued an invitation to the old Congress to meet in that city. There were then difficulties in the way of acceptance of the invitation. Western Australia, by reason of its isolated position, had suffered on this account for many years. The chance was now given to alter this and to place the profession in the west in a more favourable position.

Dr. W. W. Giblin informed the Committee that his Branch recognized the advantages in regard to central situation, extent of accommodation and wealth of material of Melbourne as compared with Hobart. He assured the members that the profession in Hobart would welcome Congress in Hobart and would endeavour to make the session a success. It was, however, understood that the interests of

the Congress were paramount and the Tasmanian Branch would accept the decision in favour of Melbourne philosophically, if the Committee carried the motion. He hoped in that event that they would not postpone coming to Hobart too long.

Dr. W. T. Hayward applauded the tone of Dr. Giblin's remarks which revealed a true Federal spirit. They had to be guided by what they considered was best for the Association and for the medical profession. He asked Dr. Giblin to convey to the Tasmanian Branch an expression of the cordial recognition by the Federal Committee of the Branch's desire to contribute to the success of the Congress. Referring to the invitation from the Western Australian Branch, he wished to say that the letter which had been read, revealed the same Federal spirit and impressed upon him the earnestness of the Branch in wishing to participate in the consolidation of the medical profession in Australia. They had to consider, however, whether the first session of Congress would be as successful in Perth as it promised to be in Melbourne.

Mr. G. A. Syme, speaking on behalf of the members of the medical profession in Melbourne and of the Victorian Branch of the British Medical Association, assured the Committee of a cordial welcome if they determined to hold the first session in Melbourne. The Victorian Branch Council had no desire to encroach on the privileges of either the Tasmanian or the Western Australian Branches. Mr. Syme assured the Committee that there would not have been an invitation from Melbourne in opposition to the two other invitations, had it not been for the hint to which Dr. Newland had referred. The first Congress in the old order of affairs had been held in Adelaide and he would have been very pleased had it been possible if the first British Medical Association Congress could have been held there too.

Dr. J. A. Dick agreed that it would be advisable to hold the first session in one of the large cities. He sympathized, however, with the views put forward by Dr. Lockhart Gibson. The motion was then put to the meeting and was carried unanimously.

On the motion of Dr. J. Lockhart Gibson, seconded by Dr. D. Thomas, it was resolved:

That the Federal Committee inform the Western Australian Branch that they hope that it will be possible to arrange for the holding of the second Australasian Medical Congress (British Medical Association) in Perth.

A discussion ensued concerning the machinery and constitution to govern the Congress. Several matters of principle were suggested, including one to the effect that the Congress sessions should be held alternately in large and small cities. The Honorary Secretary was instructed to prepare a draft constitution for submission to the Chairman and members of the Committee at an early date. It was resolved that the Victorian Branch Council be invited to nominate the President for the first Congress.

The Committee adjourned at 6 p.m. until the following day.

The undermentioned have been nominated for election as members of the New South Wales Branch:

Miss Constance Brodrick Slater, M.B. (Univ. Lond.), 1903, St. James's Rectory, Croydon.

Hugh Hedley Skeoch, Esq., M.B., Ch.M., 1918 (Univ. Sydney), Audley Street, Petersham.

Sydney Keith Dwyer, Esq., M.B., Ch.M., 1920 (Univ. Sydney), Ourimbah.

A meeting of the Section of Preventive Medicine of the Victorian Branch is announced for August 4, 1921, at the Medical Society Hall, East Melbourne. The subject of discussion will be diphtheria and its prevention. Papers will be read by Dr. F. V. Scholes, Dr. R. J. Bull, Dr. M. Jacobs and others.

WAR MEMORIAL FUND IN VICTORIA.

The Convener of the War Memorial Fund Committee of the Victorian Branch of the British Medical Association announces that the subscription list will soon be closed. It is hoped that those who have neglected to send in their con-

tributions, will do so as soon as possible. The response up to the present is insufficient for the purpose. Of approximately one thousand members, only 200 have subscribed. A sum of between £600 and £700 will be required to enable the Council to carry out the work. The memorial should be supported by every member of the Branch. The Council is therefore asking for one guinea from each member, in order that everyone may take a share. It is undesirable to appeal to a few to bear the greater part of the cost of this permanent memorial to the brave men who responded to the call of duty.

The following is an additional list of subscribers: Annie L. Bennett, W. J. Craig, F. L. Davies, J. G. Desailly, G. T. Howard, H. Herlitz, L. E. Hurley, A. T. Langley, L. A. Maxwell, R. L. Morton, W. A. Osborne, B. H. Quin, Clara Stone, B. T. Zwar.

It is with great regret that we have to record the death of Dr. Benjamin Poulton, of Adelaide, which took place on July 22, 1921. We hope to publish a notice of his career in next week's issue.

It is with regret that we have to record the death of Dr. Hugh Thomas Symes Bell, of Mosman, Sydney, which occurred on July 23, 1921.

Medical Appointments.

Dr. J. Kirkpatrick (B.M.A.) has been appointed Public Vaccinator at Minyip, Victoria.

The appointment is announced of Dr. E. J. Hanly (B.M.A.) as a Public Vaccinator at Beech Forest and of Dr. W. E. Hewitt (B.M.A.) at Murchison, Victoria.

Dr. E. N. Bateman (B.M.A.) has been appointed a Justice of the Peace for the Katanning Magisterial District in lieu of the Northampton Magisterial District, Western Australia.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xviii.

University of Sydney: Professor of Psychiatry.

Hospital for the Insane, Goodna: Senior Assistant Medical Superintendent.

Richmond District Hospital, Queensland: Medical Officer.

Royal Hospital for Women, Paddington, Sydney: Honorary Relieving Medical Officer.

Renwick Hospital for Infants: Junior Resident Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C..

Branch.	APPOINTMENTS.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Manchester Unity Independent Order of Oddfellows. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- Aug. 3.—Vic. Branch, B.M.A..
- Aug. 5.—Q. Branch, B.M.A..
- Aug. 9.—Tas. Branch, B.M.A..
- Aug. 9.—N.S.W. Branch, B.M.A., Ethics Committee.
- Aug. 10.—Melb. Pædiatric Society (Vic.).
- Aug. 11.—Vic. Branch, B.M.A., Council.
- Aug. 11.—Brisbane Hospital Clinical Society.
- Aug. 12.—N.S.W. Branch, Clinical.
- Aug. 12.—Q. Branch, B.M.A., Council.
- Aug. 12.—S. Aust. Branch, B.M.A., Council.
- Aug. 16.—N.S.W. Branch, B.M.A.: Executive and Finance Committee.
- Aug. 16.—Illawarra Suburbs Med. Assoc. (B.M.A.).
- Aug. 17.—W. Aust. Branch, B.M.A..
- Aug. 19.—Eastern Suburbs Med. Assoc. (N.S.W.).
- Aug. 19.—North Eastern Med. Assoc. (N.S.W.).
- Aug. 23.—N.S.W. Branch, B.M.A.: Medical Politics Committee: Organization and Science Committee.
- Aug. 25.—S. Aust. Branch, B.M.A..
- Aug. 25.—Clinical Meeting at the Hospital for Sick Children, Brisbane.
- Aug. 26.—N.S.W. Branch, B.M.A..
- Aug. 26.—Q. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.
Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.
All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: B. 4635.)